UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

SR- 6J

May 15, 2018

Mr. Shannon Johnson
Georgia-Pacific LLC
133 Peachtree Street NE
Atlanta, Georgia 30303

RE: Area 3: Draft Feasibility Study Report Disapproval

Dear Mr. Johnson:

The U.S. Environmental Protection Agency (EPA) has completed its review of the Area 3 draft Feasibility Study (FS) report, submitted on January 19, 2018, for the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site. The FS report presents an evaluation of remedial alternatives for Area 3 of the Kalamazoo River from the Otsego City dam to the Otsego Township dam.

Although the draft FS report provides several remedial alternatives, there is additional information required to support and clarify the alternatives, as well as inconsistencies throughout the document. Therefore, EPA disapproves the draft Area 3 FS report pending receipt of adequate responses to the enclosed comments and a revised report. Pursuant to the 2007 Agreement on Consent a revised FS report is due (60) sixty days after receipt of this letter.

Please contact me at (312) 886-0992 if you have any questions regarding this matter.

Sincerely,

James A. Saric
Remedial Project Manager
SFD Remedial Response Branch #1

Enclosure

cc: Dan Peabody, MDEQ
Richard Gay, Weyerhaeuser
Jamie McCarthy, KRWC

EPA COMMENTS
ON THE AREA 3 DRAFT FEASIBILITY STUDY REPORT
ALLIED PAPER, INC./PORTAGE CREEK/
KALAMAZOO RIVER SITE

GENERAL COMMENTS

Commenting Organization: EPA **Commenter: Saric/Keiser**
General Comment: 1

There is a significant volume difference between the median and mean floodplain soil calculations. Choose the most appropriate fit and estimate from there. The median may be the most appropriate fit with the data, along with an appropriate contingency.

Commenting Organization: EPA **Commenter: Saric/Keiser**
General Comment: 2

Pine Creek is part of the remediation area to consider for feasibility study (FS) development. The discussion in Section 3.3 and throughout the document is inadequate and does not make a case for Monitored Natural Recovery (MNR) for Pine Creek. A much more robust discussion is required using available sediment data, surface weighted average concentrations, and fish tissue data. Fish tissue data from Pine Creek should also be compared to other portions of Area 3 and background. Also, include a discussion of any current fish advisories in Pine Creek and physical barriers for polychlorinated biphenyls (PCBs) to enter Pine Creek from the Kalamazoo River.

What impacts will the drawdown of the Pine Creek reservoir have on PCB concentrations in both Pine Creek and the Kalamazoo River? Finally, there needs to be an enhanced discussion regarding long-term monitoring (LTM), to document MNR for Pine Creek. It is not clear what fish, surface water, and/or sediment will be monitored, if any.

Commenting Organization: EPA **Commenter: Saric**
General Comment: 3

Throughout the document, enhance the discussion on non-PCBs and dioxin and how it applies in Area 3. The current discussion in Section 2.1 is too vague.

Commenting Organization: EPA **Commenter: Saric**
General Comment: 4

Remove the discussion on Alternative 2 being most favorable. EPA does not agree with this recommendation and will present a preferred alternative in the Proposed Plan.

Commenting Organization: EPA **Commenter: Keiser**
General Comment: 5

The evaluation of Alternatives 2 and 3 include statements that, "Capping can be less destructive and disruptive to habitat, ..." Covering soils with geotextile and 2 feet of soil results in complete destruction of habitat. Delete this discussion.

Commenting Organization: EPA **Commenter: Keiser**
General Comment: 6

The cost estimates for Alternatives 2, 3, and 4 use the same assumptions for capping and excavation. Maintenance of capped areas would be significantly higher than for areas where the material is excavated and removed. Revise the maintenance costs for each of the alternatives and describe the differences in the text.

Commenting Organization: EPA **Commenter: Keiser**
General Comment: 7

Include time to cleanup in each of the alternative descriptions.

Commenting Organization: EPA **Commenter: Saric**
General Comment: 8

The upstream bank discussion also needs to include what actions will be taken to ensure that the banks can withstand sheer stresses associated with removal of the Otsego City dam, which was required per the Area 2 Record of Decision (ROD). Also, any bank restoration activities should consider the development concepts from the Otsego City Master Plan.

Commenting Organization: EPA **Commenter: Keiser**
General Comment: 9

In several locations, the text refers to tables in the appendixes (Page 3-9, Table D-3, and others). Summarize or bring the tables forward into the main document, so the reader is not searching for the information.

Commenting Organization: EPA **Commenter: Saric**
General Comment: 10

The FS needs to include a discussion on how the remedial work will tie into the recently completed Time-Critical Removal Action (TCRA) work. This would include such items as the transition from the restored bank to the floodplain, feeder creeks, and haul roads.

Commenting Organization: EPA **Commenter: Saric**
General Comment: 11

For all alternatives that mention institutional controls (ICs) in the form of deed restrictions, the alternative needs to include excavation to residential cleanup numbers or deed restrictions—we cannot compel land owners to put deed restrictions on their property.

Commenting Organization: EPA **Commenter: Saric**
General Comment: 12

EPA has not received the State's Applicable or Relevant and Appropriate Requirements (ARARs); therefore, we cannot yet comment on the ARARs that have been proposed in the draft FS report.

SPECIFIC COMMENTS

Commenting Organization: EPA **Commenter: Saric**
Section: ES **Page: ES-1**
Specific Comment: 1

In paragraph 2, the sentence "The purpose of this Area 3 FS is to evaluate . . .outside the Time-Critical Removal Action (TCRA) boundary . . ." is misleading. The FS also needs to evaluate the portion of Area 3 that was cleaned up under the TCRA and conclude that no further action is needed. Delete "outside the Time-Critical Removal Action (TCRA) boundary" from this sentence.

Commenting Organization: EPA **Commenter: Saric**
Section: ES **Page: ES-7**
Specific Comment: 2

The risk assessment summary needs to **discuss Human Health Risk Assessment** as it relates to residential risks.

Commenting Organization: EPA **Commenter: Saric**
Section: ES and 2.2 **Page: ES-9; 2-2**
Specific Comment: 3

Remedial Action Objective (RAO) 5 may need to include protection of residents from exposure to dioxin and include a dioxin preliminary remediation goal (PRG) similar to the Area 2 ROD. An expanded discussion of non-PCB constituents will help further determine if this is necessary.

Commenting Organization: EPA **Commenter: Keiser**
Section: ES **Page: ES-18**
Specific Comment: 4

The description of Alternative 5 should list Pine Creek as being included in the excavation footprint.

Commenting Organization: EPA **Commenter: Keiser**
Section: ES **Page: ES 19-20**
Specific Comment: 5

Modify the text here and in the rest of the document to include Alternative 5 as being protective.

Remove the statement that Alternatives 2 and 3 are "favored". EPA will determine and select the alternative.

The advantages to using placement techniques, such as broadcasting via air or water slurry, are overstated. Clearing and grubbing before broadcasting would require use of equipment in swampy areas; broadcasting by either air or water would still require grading and broadcasting by water slurry would require water control and possibly treatment.

Remove the statement that Alternative 5 is the least "favored", see above.

Modify the text that reads, "A-5 is less protective, is not effective in the short-term, is the most difficult to implement, and the most costly. Approximately 150 acres of habitat would be destroyed with A-5 compared to 25 acres of disturbed habitat in A-2 through A-4. The extensive removal would greatly reduce the volume of PCB-containing soil in Area 3; however, long term effectiveness of PCB removal would likely be outweighed by the impacts to habitat and wildlife. Therefore, it is not certain if the RAOs would be met in a timely manner. Extensive destruction of habitat may invite invasive species such that a full recovery may not occur." Complete removal of PCB contamination is protective. Risks from invasives are similar for Alternatives 2 through 5. Overall, Alternative 5 is on a larger scale but portions of the excavations would be restored upon completion in an area. Engineering controls, such as minimizing open areas of excavation, timely revegetation, and vegetation control are available to enhance recovery.

Commenting Organization: EPA **Commenter: Saric**
Section: 1 **Page: 1-2**
Specific Comment: 6

In paragraph two, the statement "no disposal took place until 1983..." is inaccurate. Change the text to "From the late 1950s until 1977, the clarifier underflow from the Georgia-Pacific Kalamazoo Mill was pumped to the King Highway Landfill (KHL) dewatering lagoons, which later became the OU3. From 1987 to 1988, Georgia-Pacific disposed of dewatering residuals at the KHL."

Commenting Organization: EPA **Commenter: Keiser**
Section: 1 **Page: 1-8**
Specific Comment: 7

"Selection of and remediation to the final RALs along with restoration/stabilization activities were performed with the clear goals of (INSERT being consistent with the final remedy) and no further action required in the TCRA area."

Commenting Organization: EPA **Commenter: Keiser**
Section: 1 **Figure: 1-11**
Specific Comment: 8

Note 1 states that Figure 1 represents the area below the M-89 bridge; how does the conceptual site model (CSM) differ above the bridge? Either add a figure or modify Figure 1-11 to represent the CSM above the M-89 bridge.

Commenting Organization: EPA **Commenter: Keiser**
Section: 3 **Page: 3-8**
Specific Comment: 9

Identify the receptors represented by each home range, 1-acre shrew, 2-acre robin, and 11-acre woodchuck.

Commenting Organization: EPA **Commenter: Keiser**
Section: 3 **Page: 3-8**
Specific Comment: 10

Floodplain remedial action level (RAL) Analysis, the first line page 3-9 identifies that RALs of 25, 20 and 15 were evaluated. Little discussion of RAL 25 is included in the text. Add RAL 25 information to Table 3-3, add Table D-3 to the main document, and revise the text to include the evaluation of RAL 25.

Commenting Organization: EPA **Commenter: Keiser**
Section: 3 **Figure: 3-13**
Specific Comment: 11

Extend the figure coverage up to the Otsego City Dam.

Commenting Organization: EPA **Commenter: Saric**
Section: 3 **Page: 3-11**
Specific Comment: 12

The discussion of how the banks upstream of the M-89 bridge requiring remediation needs more details (Section 3.3.2). It is not clear if there will be a 10-foot pull-back and the bank restoration will be like the restoration downstream of the M-89 bridge. For example, is there a 3:1 slope, 10 foot-pull back, etc. The 10-foot buffer needs to be further illustrated. It would be helpful to provide a diagram of the bank restoration and confirm that bank restoration as used in the TCRA will be applied.

Commenting Organization: EPA **Commenter: Keiser**
Section: 3 **Page: 3-11**
Specific Comment: 13

The remedial areas for bank soil and edge sediment and RAL 20 footprint for floodplain soil considered in the remedial alternatives are shown on Figures 3-15 and 3-1. Change to Figures 3-15 and 3-16?

Commenting Organization: EPA **Commenter: Saric/Keiser**
Section: 3.3.3 **Page: 3-12**
Specific Comment: 14

For the residential parcel in the floodplain, modify the text to state that remedial design sampling will confirm the exceedance of the PRG above 2.5 milligrams per kilogram PCB. If this is confirmed, the contamination will either be excavated, capped with appropriate ICs, or an IC applied on the property, if agreed by the property owner, to maintain recreational land use.

Commenting Organization: EPA **Commenter: Keiser**
Section: 3 **Page: 3-11**
Specific Comment: 15

"The nearly equivalent protectiveness of RAL 20 between the mean and median composite interpolation models confirms ...." Change confirms to supports.

Commenting Organization: EPA **Commenter: Keiser**
Section: 3 **Page: 3-12, Figure: 3-9**
Specific Comment: 16

Identify the location of the private parcel on Figure 3-9.

Commenting Organization: EPA **Commenter: Keiser**
Section: 4 **Page: 4-1, Figure: 4-1a thorough 4-1c**
Specific Comment: 17

Add the fish tissue projections for Alternative 5 to this set of figures.

Commenting Organization: EPA **Commenter: Keiser**
Section: 4.2.2.6 **Page: 4-5**
Specific Comment: 18

The discussion of cap placement needs to be revised. EPA does not agree that cap placement would be easier using application methods such as broadcasting via an air or water slurry. Special equipment would be required for broadcasting soils by either air or water slurry. Water slurry would require water containment and treatment. Soils would still require compaction and grading.

It is unclear how impacts to habitat would be reduced. Placing a 2-foot cap on an area destroys the existing habitat. Haul roads and pads would still be required to place the liner and spread cap material. Delete this sentence.

Commenting Organization: EPA **Commenter: Keiser**
Section: 4.4.1 **Page: 4-8**
Specific Comment: 19

Incorporate from Alternative 3, "The excavation zone within 50 feet of the channel will not be backfilled, but 6 inches of topsoil will be placed to support vegetation and habitat restoration." The cost estimate will need to be revised based on this change.

Commenting Organization: EPA **Commenter: Keiser**
Section: 4.5.1 **Page: 4-9**
Specific Comment: 20

Include some portion of the floodplain, or excavation zone that would only be backfilled with topsoil for restoration as included in Alternative 3. Make the appropriate changes to the cost estimate.

Commenting Organization: EPA **Commenter: Keiser**
Section: 4.5.2.1 **Page: 4-10**
Specific Comment: 21

The statement "Habitat and wildlife recovery times would be lengthy" is misleading. Habitat restoration should be scheduled to occur immediately after excavation. For an individual area, habitat recovery will not be different than restoration recovery listed for the other alternatives. The text should be modified.

Commenting Organization: EPA **Commenter: Keiser**
Section: 4.6 **Page: 4-12**
Specific Comment: 22

Delete the line "Floodplain capping included in A-2 and partial capping in A-3 is favored over full excavation for protectiveness and short- and long-term effectiveness because it can be implemented with less ecological destruction and disruption than excavation." EPA does not agree that Alternative 2 is favored or with the description that the alternative can be implemented with less ecological destruction and disruption than excavation.

Commenting Organization: EPA **Commenter: Keiser**
Section: 4 **Page: 4-12 and Tables 4-2 to 4-4**
Specific Comment: 23

The text states that "Removal and capping alternatives provide similar levels of protectiveness provided that the cap areas are inspected and maintained in accordance with the LTM." The cost estimates for Alternatives 2 through 4 include the same $358,400 for maintenance. Revise the cost estimate to account for the increased cost of inspection and maintenance for the capped areas in Alternatives 2 and 3.

Commenting Organization: EPA **Commenter: Keiser**
Section: 4 **Page: 4-12**
Specific Comment: 24

Delete the last paragraph on this page: "~~A-2 is the most favorable remedial alternative. It is comparable to A-3 and A-4 in protectiveness, is implementable using standard equipment, less invasive, and is less costly. A-2 is protective of human health and the environment and provides optimal short- and long-term effectiveness while complying with ARARs. USEPA, with input from MDEQ and the community, will select the remedial alternative that will be implemented~~."

Commenting Organization: EPA **Commenter: Keiser**
Section: 5.2 **Page: 5-4**
Specific Comment: 25

Modify the following to include Alternative 5 as follows, "The active remedial alternatives (A-2 through A-45) are protective of human health and the environment."

Commenting Organization: EPA **Commenter: Keiser**
Section: 5.2 **Page: 5-4**
Specific Comment: 26

Delete the sentence: "~~Floodplain capping included in A-2 and partial capping in A-3 is favored over full excavation for protectiveness and short- and long-term effectiveness because it can be implemented with less ecological destruction and disruption than excavation. Capping using placement techniques such as broadcasting via an air or water slurry also has an implementability advantage over excavation where access is difficult and the soil surface (i.e., in swampy areas) may not readily support construction vehicles~~."